Legacy MSE

Joint Network Node (JNN)

WIN-T

Tactical Telephone; Army Common Operating Picture; Limited SECRET Data

XXX

XX

2-8 Mbps

1-2 Mbps

Army

Extended Halt

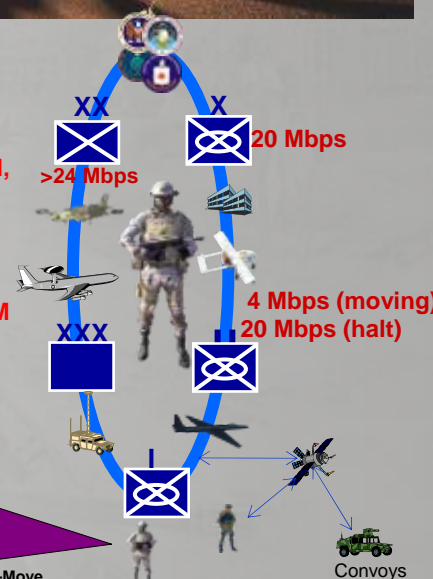**Tactical, commercial, DSN Telephone; Video Teleconferencing, Joint Common Operating Picture; SECRET & UNCLASS Data**

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XX

8 Mbps

7 Mbps

1 Mbps

Joint

Quick Halt

Quick Halt

Tactical, commercial, DSN Telephone; Dynamic Collaboration OTM, Joint Common Operating Picture; TS, SECRET, UNCLASS, Coalition Data OTM

XX

X

>24 Mbps

20 Mbps

XXX

4 Mbps (moving)
20 Mbps (halt)

Joint

On-The-Move

Convoys

Network Centric

Legacy Force

Modular Force

Future Force

"We flowed a signal force into this that was incapable of supporting the fight had we gone earlier than we did. And it took a long time … a long time to establish…" LTG Wallace, V Corps Commander, 13 June 2003, Camp Victory, Baghdad, Iraq.

"…JNN frees the commander from a linear battlefield….It readily interfaces with legacy MSE, other commercial assets, and other Joint and Coalition systems easily." MG Turner, Cdr, 101st Airborne Division

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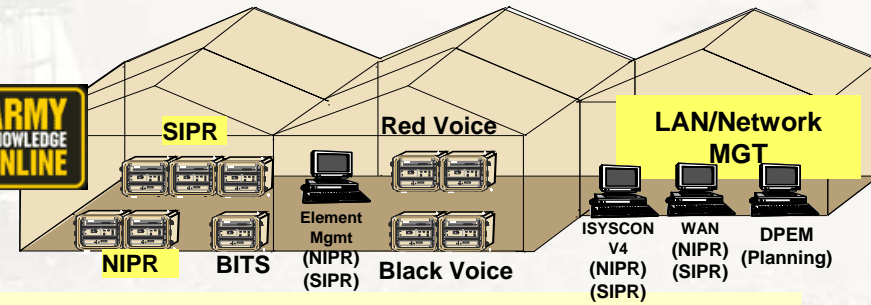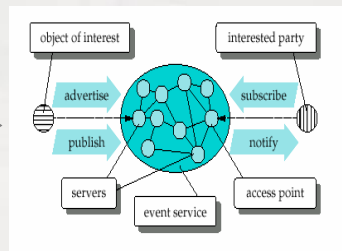*Call to Duty...Boots on the Ground*

Commercial IT for Battle Command

Transitioned Battle Command Systems from specialized workstations to *Commercial-Off-the-Shelf laptops*

¼ Size
⅓ Weight
⅓ Cost
Windows-Based

AKO ARMY KNOWLEDGE ONLINE

SIPR **Red Voice** **LAN/Network MGT**

NIPR **BITS** **Element Mgmt (NIPR) (SIPR)** **Black Voice** **ISYSCON V4 (NIPR) (SIPR)** **WAN (NIPR) (SIPR)** **DPEM (Planning)**

Adopted Commercial Applications to meet SASO and collaboration requirements

Introduced *Net-centric, XML-based Publish & Subscribe Architecture*

object of interest   interested party
advertise   subscribe
publish   notify
servers   event service   access point
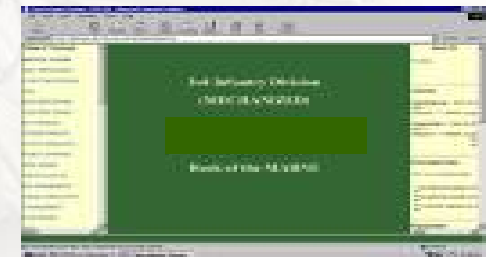
OIF Lessons Learned

Information Management (IM) requirements have a shelf life of weeks and months vs. years

Our "new" adversaries are not tied to large investments in technology or systems, which allows them flexibility to respond quickly to our technical and system solutions

Need to equip mobile TOCs AND TOCS inside buildings with commercial power

Commercial IT facilitated Information Exchange with our US Army, Joint and Coalition as well as local police force, local Government, Aid groups, and US and Foreign Government Task Forces
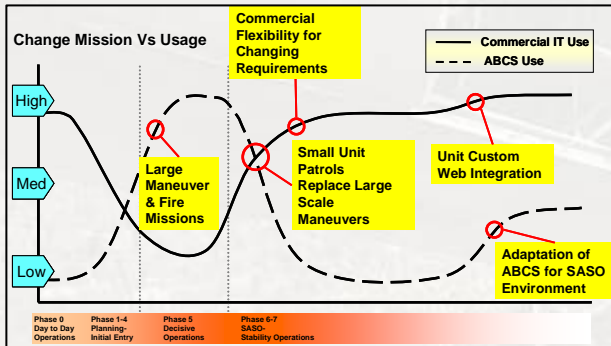

Terresterial based networks (with relays) for small unit operations, static AOR, and areas with "canyon" effects

SATCOM better at providing connectivity over long ranges, dynamic AOR, and bringing larger bandwidths to lower levels

Change Mission Vs Usage

— Commercial IT Use
--- ABCS Use

Commercial Flexibility for Changing Requirements

High
Med
Low

Large Maneuver & Fire Missions

Small Unit Patrols Replace Large Scale Maneuvers

Unit Custom Web Integration

Adaptation of ABCS for SASO Environment

| Phase 0 Day to Day Operations | Phase 1-4 Planning- Initial Entry | Phase 5 Decisive Operations | Phase 6-7 SASO- Stability Operations |

Software must provide for the full spectrum of combat *in parallel* - contracting, city maintenance & rebuilding, as well as intel and battle management functions -usable for the 3 block war
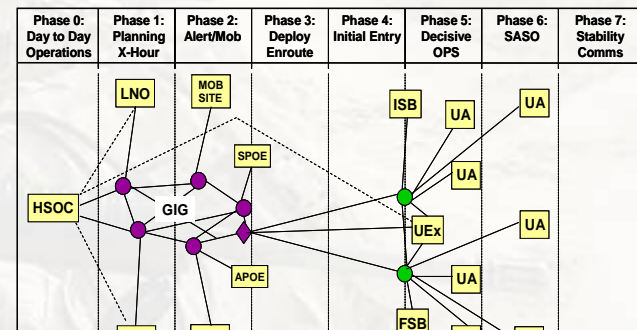
IED

Commercial IT helped provide affordable solutions which *trade features for density* of fielding to reserve and national guards, as well as support and CA units

Standards which do not provide needed capability and cannot adapt quickly will result in many field expedient non-standard solutions

AKO ARMY KNOWLEDGE ONLINE
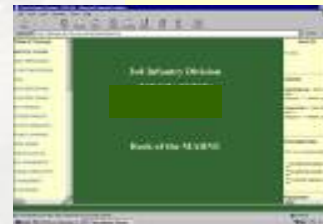
Microsoft Office Products and web pages were user friendly and provided a toolset that could *quickly be adapted to a constantly changing environment*, however, *manual processes* replaced automation for status reporting and are not BW sensitive

Phase 0: Day to Day Operations	Phase 1: Planning X-Hour	Phase 2: Alert/Mob	Phase 3: Deploy Enroute	Phase 4: Initial Entry	Phase 5: Decisive OPS	Phase 6: SASO	Phase 7: Stability Comms

LNO
MOB SITE
ISB
UA
UA
SPOE
HSOC
GIG
UEx
UA
APOE
UA
FSB

Unit familiarity with a toolset, as well as developed databases and products developed over time will take priority over the "greater good" of commonality - *Soldiers not waiting for or using the Army prescribed solutions*

Low Cost SATCOM POP

JNN/WIN-T Ku-SATCOM

Benefits:
- Combines strengths of both terrestrial and Satellite architectures
- Recapitalizes Army investment in SINCGARS ASIP fleet
- Ties dismounted to mounted forces
- Meets Warfighter requirements cost effectively
- Creates modularity at BN and Below
- Integrated EPLRS/SRW Network
- Reduces overall FCS program risk
- Embraces JCR future evolution

JNN ties remote BN's together

JNN/WIN-T

Bde CP

EPLRS/SRW

Bn CP

EPLRS/SRW

Low Cost PoP allows flexible BLOS operation for CO and PLT

Sidehat/SRW provides interface to the FCS Transport

Bn CP

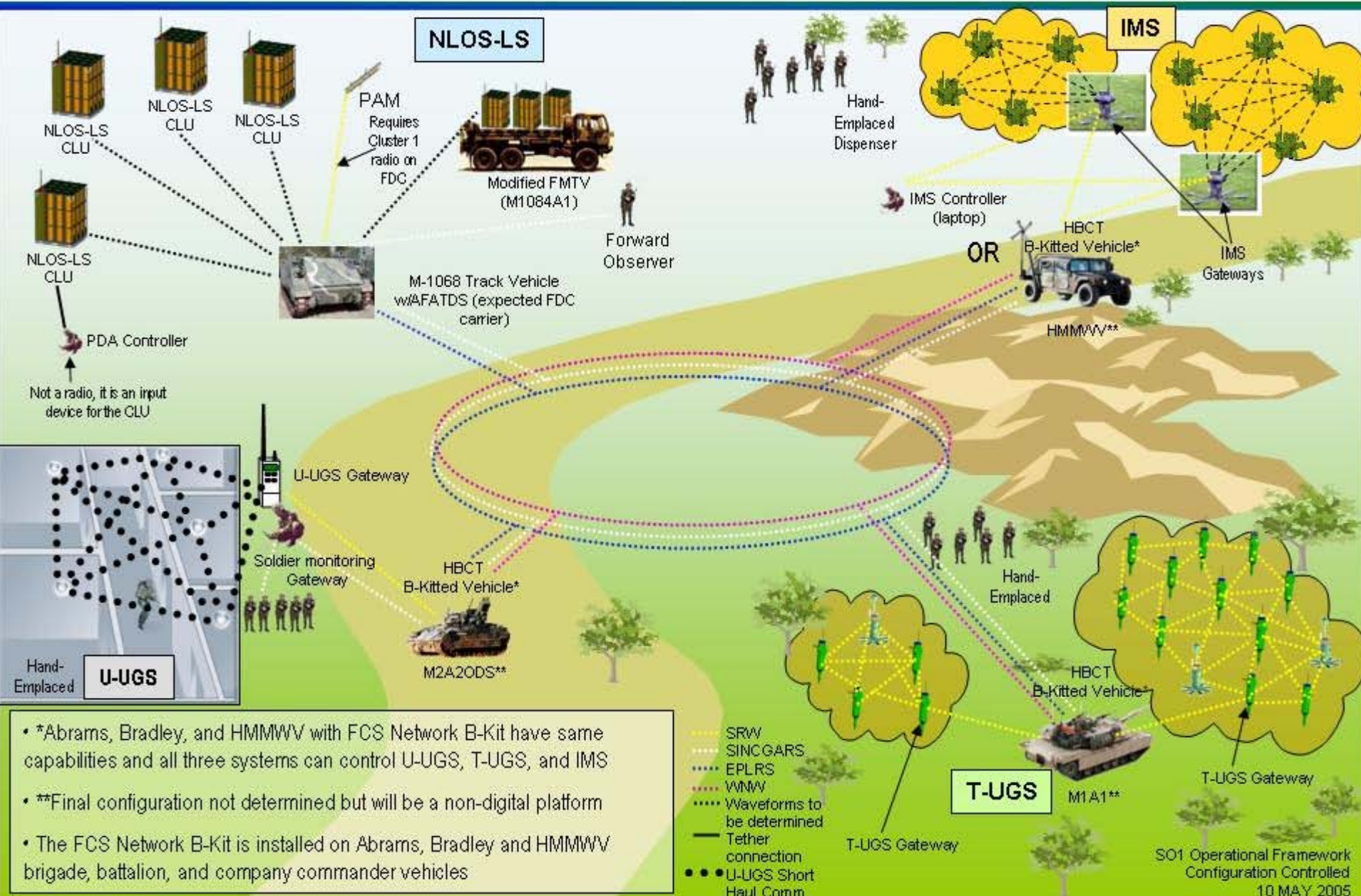EPLRS/SRW

Bn CP

EPLRS/SRW

SINCGARS

EPLRS/SRW

SINCGARS

SINCGARS

EPLRS/SRW

Networked Voice and Data between Dismounts and Dismounts to Mounted

Brings Tactical Internet down to the Soldier

NLOS-LS

NLOS-LS CLU
NLOS-LS CLU
NLOS-LS CLU
NLOS-LS CLU
NLOS-LS CLU

PAM
Requires
Cluster 1
radio on
FDC

Modified FMTV
(M1084A1)

Forward
Observer

M-1068 Track Vehicle
w/AFATDS (expected FDC
carrier)

PDA Controller

Not a radio, it is an input
device for the CLU

IMS

Hand-
Emplaced
Dispenser

IMS Controller
(laptop)

HBCT
B-Kitted Vehicle*

OR

IMS
Gateways

HMMWV**

U-UGS Gateway

Soldier monitoring
Gateway

HBCT
B-Kitted Vehicle*

M2A2ODS**

Hand-
Emplaced
U-UGS

Hand-
Emplaced

HBCT
B-Kitted Vehicle*

T-UGS
M1A1**

T-UGS Gateway

T-UGS Gateway

- *Abrams, Bradley, and HMMWV with FCS Network B-Kit have same capabilities and all three systems can control U-UGS, T-UGS, and IMS

- **Final configuration not determined but will be a non-digital platform

- The FCS Network B-Kit is installed on Abrams, Bradley and HMMWV brigade, battalion, and company commander vehicles

----- SRW
----- SINCGARS
····· EPLRS
····· WNW
····· Waveforms to
be determined
──── Tether
connection
●●● U-UGS Short
Haul Comm

SO1 Operational Framework
Configuration Controlled
10 MAY 2005

Transforming Today to Meet Tomorrow's Needs

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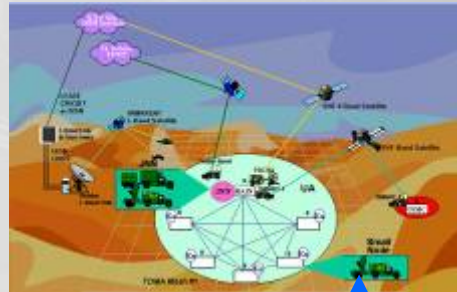**Army**

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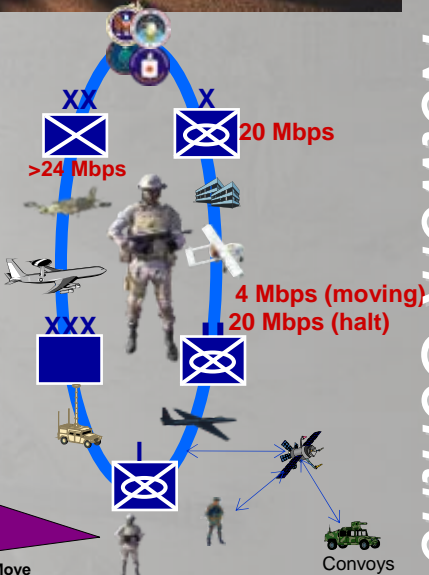
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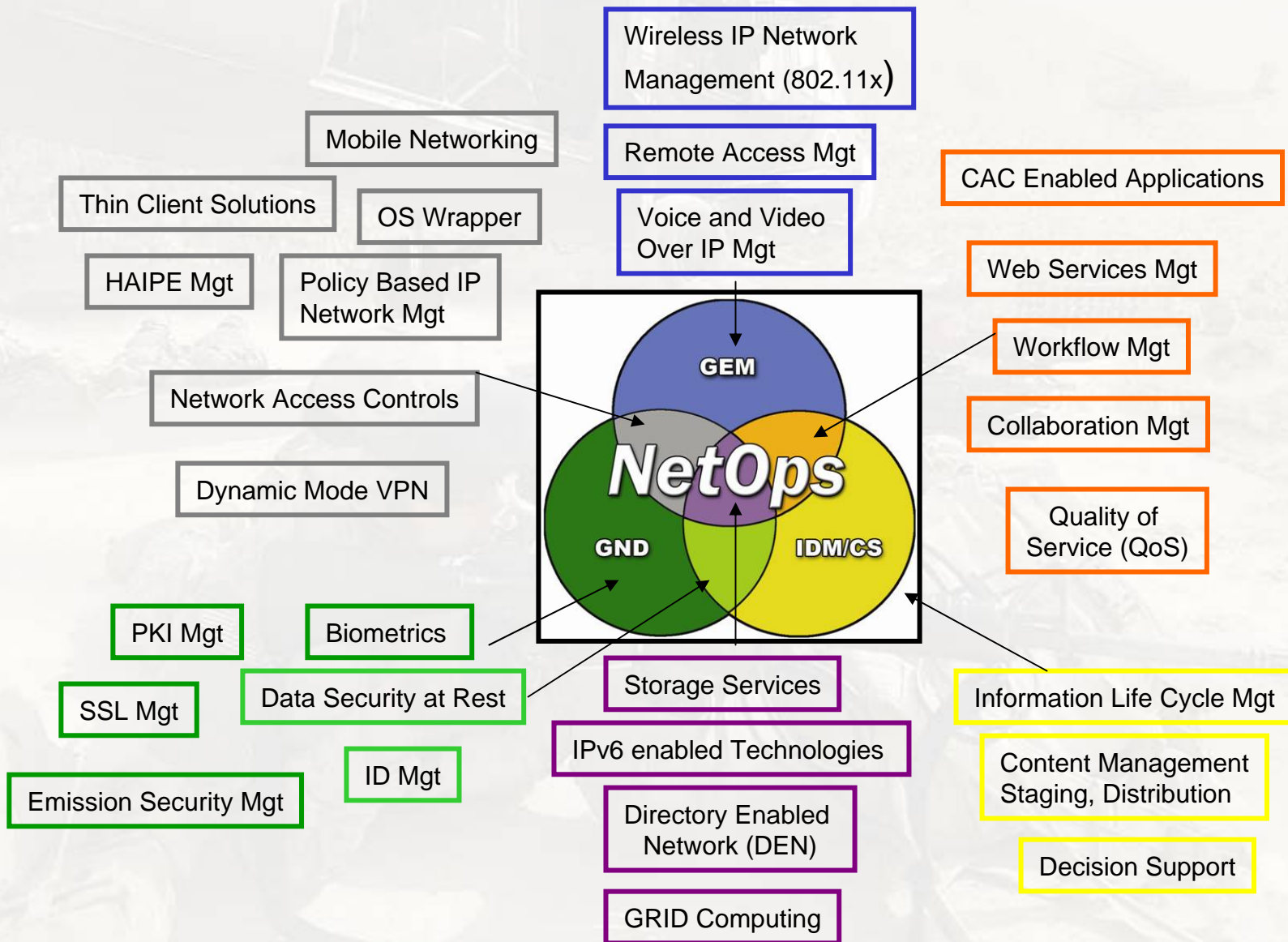
Call to Duty...Boots on the Ground

Wireless IP Network Management (802.11x)

Remote Access Mgt

Mobile Networking

CAC Enabled Applications

Thin Client Solutions

OS Wrapper

Voice and Video Over IP Mgt

Web Services Mgt

HAIPE Mgt

Policy Based IP Network Mgt

Workflow Mgt

Network Access Controls

Collaboration Mgt

Dynamic Mode VPN

Quality of Service (QoS)

NetOps

GEM

GND

IDM/CS

PKI Mgt

Biometrics

SSL Mgt

Data Security at Rest

Storage Services

Information Life Cycle Mgt

Emission Security Mgt

ID Mgt

IPv6 enabled Technologies

Content Management Staging, Distribution

Directory Enabled Network (DEN)

Decision Support

GRID Computing

I3MP, APCs, AKO-F, Best of Breed

Installation Information Infrastructure Modernization Program

Post Modern Communications

Area Processing Centers (200 ~ 7 in CONUS)

TLA-R2   Army Exchange

- Centralize IT services
- Quicker response to changing global mission – improved security
- Better manage IT implementation costs
- Improve quality of operator training
- Reduce the total cost of ownership

- Converge on IP
- ……VTC/Video/Voice over IP
- Focus on transformation and BRAC/IGPBS
- Build Area Processing Centers, Exchange 2003 hubs, Directory Services, etc.
- Implementing wireless…optics
- Thin Client

AKO Forward

- Content staging
- Increase speed of delivery
- Push services to the edge
  - More robust
  - …available, and
  - …secure
- Reduce IT costs
- Maximize bandwidth utilization
- Co-locate with APCs & DISA MegaCenters

Army Best of Breed (BoB) KM/Collaboration

- Select, integrate, and package for the tactical environment a standardized Army BoB KM/collaboration solution
- AKO-F platform will host BoB
- First effort to reduce redundant applications by 80% under IT portfolio management
- Corps voted at CTSF on tools
  - downsized from 18 to 7
  - 7 undergoing technical evaluation
  - Evaluation results - 26 May
- BoB solution to be used in theater

Army Governance Structure

Army Alignment with GIG ES Governance

Business Mission Area (BMA)
Army Lead: DUSA

Governance

- **Acquisition** — Army Lead: ASA(ALT)
- **Financial Management** — Army Lead: ASA(FM&C)
- **Human Resource Management** — Army Lead: ASA(MR&A)
- **Logistics** — Army Lead: ASA(ALT)
- **Installations & Environment** — Army Lead: ASA(I&E)
- **Civil Works** — Army Owner: ASA(CW)

Warfighting Mission Area (WMA)
Army Lead: G-3/5/7

Governance

- **Battlespace Awareness** — Army Lead: G-2
- **Force Application** — Army Lead: G-8
- **Force Protection** — Army Lead: G-8
- **Focused Logistics** — Army Lead: G-4
- **Net Centric** — Army Lead: CIO/G-6
- **Force Management** — Army Lead: G-3/5/7 / FM
- **Training** — Army Lead: G-3/5/7 / TR
- **Command & Control** — Army Lead: G-3/5/7 / SB Lead

Defense Intelligence Mission Area (DIMA)

Army Lead: G-2

Governance

Domains TBD

Enterprise Information Environment Mission Area (EIEMA)
Army Lead: CIO/G-6 (GA&CKO)

Governance

Communications	Computing Infrastructure	Core Enterprise Services	Information Assurance
Army Lead: CIO/G-6 (AONS)	Army Lead: CIO/G-6 (AONS)	Army Lead: CIO/G-6 (GA&CKO)	Army Lead: CIO/G-6 (GA&CKO)

4 Mission Areas:
- 18 Domains

OPTIMIZING ERP EFFORTS ACROSS THE ARMY ENTERPRISE

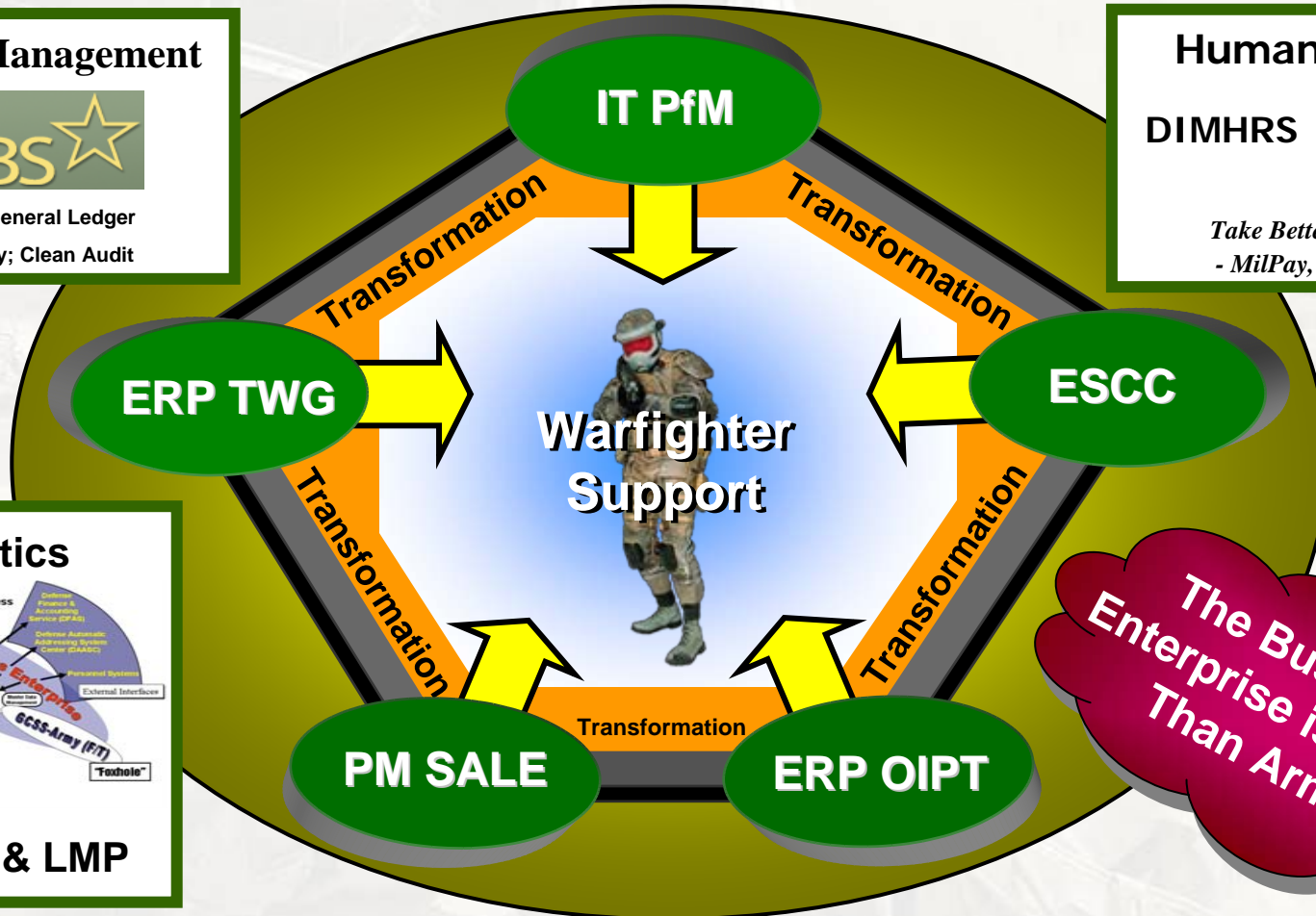### Financial Management

GFEBS ☆

Single Army General Ledger

$Transparency; Clean Audit

Human Resources

DIMHRS

Take Better Care of Soldiers - MilPay, Career Mgmt, etc.

IT PfM

ERP TWG

ESCC

Transformation

Warfighter Support

Logistics

GCSS-A & LMP

PM SALE

ERP OIPT

The Business Enterprise is Bigger Than Army.

ERP TWG – ERP Technical Working Group
PM SALE – Single SES level Program Manager for most Army ERP Programs
ERP OIPT – ERP Overarching Integrated Process Team
ESCC – Enterprise Solution Competency Center (ERP center of Excellence)
IT PfM – Information Technology Portfolio Management

Take Away's

- Army IT must mirror the way we fight…**JOINT**

- Army has a Clinger-Cohen CIO architecting, acquiring, configuration managing an **ENTERPRISE**

- Croom's Law…Adapt (**GOTS**), Buy (**COTS**), Code

- Design, operate, and defend from a **NETOPS** perspective

- **RESPONSIVE** to urgent warfighter needs while integrating a **STRATEGIC ENTERPRISE**

- Consider **TOTAL COST OF OWNERSHIP** to include **SUSTAINMENT** costs over the long term

QUESTIONS · THOUGHTS

11·JUL·06

Mr. Vernon Bettencourt
Deputy, Chief Information Officer/G-6

CALL TO DUTY: BOOTS ON THE GROUND

U.S.ARMY

Backup

Call to Duty...Boots on the Ground

Microlight 3G w/SRW and EPLRS

- Dismounted leader, soldier radio
- Self-healing, Ad hoc network
- SRW or EPLRS waveforms
- Provides dismounted to dismounted and dismounted to mounted voice and data.
- Already selected for Land Warrior

SINCGARS Sidehat w/SRW and EPLRS

- Vehicle radio
- Sidehat ports SRW or EPLRS waveforms
- Fits into existing installation kit
- Provides dismounted to mounted connectivity
- Provides connectivity with legacy systems

Low Cost PoP (LCP)

- Vehicle Mounted SATCOM OTM
- Goal is 64kbps capability
- Extends LOS SA Network BLOS
- Also exploring commercial vendor alternatives (BGAN/INMARSAT)